

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICANT:	MARIE K. WALSH et al.	)	
		)	
TITLE:	TEXTURED WHEY PROTEIN	)	
	PRODUCT AND METHOD	)	
		)	APPELLANT'S FIRST
SERIAL NO.:	10/644,604	)	SUPPLEMENTAL BRIEF UNDER
		)	37 C.F.R. § 41.37
FILED:	August 19, 2003	)	
		)	
EXAMINER:	A.J. Weier	)	
		)	
ART UNIT:	1761	)	

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Commissioner for Patents  
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Sir:

This Appellant's First Supplemental Brief Under 37 C.F.R. § 41.37 is filed in response to *Notification of Non-Compliant Appeal Brief (37 CFR 41.37)* mailed February 13, 2008.

"Section V. Summary of Claimed Subject Matter" of this brief has been amended for complying with the *Notification*. Otherwise, the substance of the instant brief is the same as the brief filed on November 13, 2007.

I. REAL PARTY IN INTEREST

This application was assigned by the inventors to Utah State University by an assignment that was recorded at Reel 014741, Frame 0811. Thus, the real party in interest is Utah State University.

II. RELATED APPEALS AND INTERFERENCES

Applicants and Applicants' legal representative know of no other appeals or interferences that will directly affect or be directly affected by or have a bearing on the Board's decision in the present application.

III. STATUS OF CLAIMS

Claims 1-119 are pending in this application. Claims 7-12, 27-55, 62-67, and 83-108 have been withdrawn from consideration as drawn to non-elected subject matter. Claims 1-6, 13-26, 56-61, 68-82, and 109-119 have been finally rejected, and the rejection of claims 1-6, 13-26, 56-61, 68-82, and 109-119 is appealed and will be addressed in this brief.

IV. STATUS OF AMENDMENTS

An amendment after final rejection was filed on May 25, 2007, wherein Applicants proposed canceling the non-elected claims, namely, claims 7-12, 27-55, 62-67, and 83-108. However, the

Examiner refused to enter this amendment. Thus, all of claims 1-119 are pending in this application.

V. SUMMARY OF CLAIMED SUBJECT MATTER

Claims 1, 56, and 109 are the independent claims under appeal.

Claim 1 is drawn to a textured whey protein product comprising a thermoplastic extrusion product of a composition comprising about 1-80% by weight of a food grade protein and about 20-99% by weight of an edible polysaccharide, wherein the food grade protein comprises at least about 25% by weight of whey protein. Page 6, lines 18-23.

Claim 56 is drawn to a textured whey protein product comprises a thermoplastic extrusion product of a composition comprising about 1-80% by weight of a mixture of food grade proteins and about 20-99% by weight of an edible polysaccharide, wherein the mixture of food grade proteins comprises at least about 25% by weight of whey protein. Page 8, lines 4-10.

Claim 109 is drawn to a textured whey protein product comprising a thermoplastic extrusion product of a composition comprising about 40-100% by weight of a whey protein concentrate and about 0-60% by weight of an edible polysaccharide, typically about 40-99% by weight of whey protein concentrate and about 1-60% by weight of edible polysaccharide, and more typically about 60-95% by weight of whey protein concentrate and 5-40% by weight of edible

polysaccharide. The whey protein concentrate illustratively comprises about 20-80% by weight of protein in certain embodiments and comprises at least about 80% by weight of protein in other embodiments. Page 4, line 18, to page 5, line 4.

No claim contains a means plus function or step plus function limitation.

The term "food grade protein" used in the claims and specification is described at page 10, line 16, to page 12, line 9.

The term "edible polysaccharide" used in the claims and specification is described at page 5, lines 4-12, and page 12, lines 10-17.

The terms "whey protein" and "whey protein concentrate" used in the claims and specification are described at page 11, lines 3-19.

#### VI. GROUND OF REJECTION TO BE REVIEWED ON APPEAL

The issues presented for reconsideration herein are as follows:

Whether claims 1-6, 13-16, 22-26, 56-61, 68-71, 77-82, 109-113, and 119 are obvious under 35 U.S.C. § 103(a) over U.S. Patent No. 3,886,299 ("Feldbrugge").

Whether claims 17, 18, 72-73, 114, and 115 are obvious under 35 U.S.C. § 103(a) over Feldbrugge and U.S. Patent No. 5,366,748 ("Villagran").

Whether claims 19-21, 74-76, and 116-118 are obvious under 35 U.S.C. § 103(a) over Feldbrugge and Japanese Patent Document No. JP 58-28235.

## VII. ARGUMENT

### A. Brief History of Prosecution Before the Examiner

This application was filed August 19, 2003, and is a continuation-in-part of U.S. Patent Application No. 09/596,191, filed June 16, 2000, now U.S. Patent No. 6,607,777, which claims the benefit of U.S. Provisional Application No. 60/140,280, filed June 18, 1999. An Information Disclosure Statement was filed on November 13, 2003.

The application was filed without the statutory basic filing fee and inventors' declaration. Thus, the USPTO issued a Notice to File Missing Parts of Nonprovisional Application on November 13, 2003. Applicants filed a response, including the statutory basic filing fees and inventors' Declaration on November 20, 2003. Applicants a certificate under 37 C.F.R. § 3.73(b) to establish the right of the Assignee to take action on December 29, 2003.

On April 19, 2004, the USPTO mailed another Notice to File Missing Parts, wherein it was alleged that an inventors' Declaration was missing and needed to be filed. Applicants responded on April 27, 2004, by resubmitting a copy of the Declaration that had already been filed on November 20, 2003.

The application was published as U.S. Patent Application Publication No. US-2004-0161519-A1 on August 19, 2004.

A restriction requirement was mailed on September 26, 2005, wherein restriction was required one of four groups. A species election was also required. On February 27, 2006, Applicants filed a response, wherein Group I, drawn to claims 1-26 and 56-119 was elected with traverse. A species was elected, and all the claims readable on the elected species were identified.

A first substantive Office Action was mailed on May 16, 2006, in which the restriction requirement was made final, and the non-elected claims were withdrawn from consideration. The rejections that are the subject of this appeal were lodged. Further, an obviousness-type double patenting rejection was advanced, wherein the claims currently under consideration were rejected as allegedly being obvious over Applicants' U.S. Patent No. 6,607,777.

Applicants filed a response on September 18, 2006, plus a petition for a one-month extension of time and the applicable fee. In the response, each of the grounds of rejection was thoroughly discussed. A terminal disclaimer was also filed for obviating the obviousness-type double patenting rejection.

A final Office Action was mailed on December 13, 2006, wherein the obviousness-type double patenting rejection was withdrawn, but, otherwise, grounds of rejection under 35 U.S.C. § 103(a) were maintained.

Applicants filed an after-final amendment on May 25, 2007, together with a Petition for a three-month extension of time and the appropriate fee. This amendment contained a further thorough discussion of the rejections, a proposed amendment to cancel the non-elected claims, and a Declaration of Conly L. Hansen under 37 C.F.R. § 1.132. Reasons why the Declaration of Conly L. Hansen was necessary and not previously presented were given.

An Advisory Action was mailed June 13, 2007, wherein the Examiner refused to enter the cancellation of claims despite 37 C.F.R. § 1.116(b)(2), and refused to enter the Declaration of Conly L. Hansen, presumably because the reasons given for its entry were deemed not "good and sufficient." Applicants filed a Notice of Appeal on June 13, 2007.

B. Issue of Nonobviousness under 35 U.S.C. § 103(a)

1. Legal Standards for Examination under the Nonobviousness Requirement of 35 U.S.C. § 103(a)

Nonobviousness analysis starts with the foundation that an applicant for a patent is entitled to the patent unless the application fails to meet the requirements established by law. 35 U.S.C. §§ 101, 102, 103, 112. It is the USPTO's duty to issue a patent or establish that the applicant is not entitled to a patent under the law. *In re Warner*, 154 USPQ 173, 177 (CCPA 1967), cert. denied, 389 U.S. 1057 (1968). Thus, the initial burden is on the USPTO to establish a *prima facie* case of obviousness. *In re Fine*,

837 F.2d 1071, 5 USPQ2d 1596, 1598 (Fed. Cir. 1988). If no *prima facie* case of obviousness is established, then a rejection under Section 103 cannot properly be sustained. *In re Oetiker*, 24 U.S.P.Q.2d 1443 (Fed. Cir. 1992). If the USPTO establishes a *prima facie* case of obviousness, then the burden of production shifts to the applicant to provide appropriate rebuttal, although the burden of persuasion always remains with the USPTO. *Id.* Such rebuttal may include arguments, amendments, and/or presentation of objective indicia of nonobviousness. However, such objective indicia are always relevant to a determination of nonobviousness, whether or not a *prima facie* case of obviousness has been established. *Stratoflex Inc. v. Aeroquip Corp.*, 218 U.S.P.Q. 871, 879 (Fed. Cir. 1987). To establish a *prima facie* case of obviousness, the USPTO must show all of the limitations of the claimed invention in the prior art. *In re Ehrreich*, 200 U.S.P.Q. 504, 509-11 (C.C.P.A. 1979). The subject matter of the invention must be considered as a whole and through the eyes of a hypothetical person of ordinary skill, not expert skill, in the relevant art at the time the invention was made. *Connell v. Sears, Roebuck & Co.*, 220 U.S.P.Q. 193, 199 (Fed. Cir. 1983). References must also be considered as a whole, including subject matter that teaches away from the invention as well as subject matter that suggests the invention, and not for their isolated teachings. *Ashland Oil, Inc. v. Delta Resins & Refractories, Inc.*, 227 U.S.P.Q. 657, 669 (Fed. Cir.



1985). References may be combined if it would be obvious to a person of ordinary skill in the art to do so. It is not permissible to use hindsight to pick and choose among isolated teachings in the art after first having read Applicant's application to learn the pattern of the invention. *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596, 1600 (Fed. Cir. 1988). Finally, all the facts in evidence are evaluated, and patentability is determined on the totality of the record. *In re Corkill*, 226 USPQ 1005, 1008 (Fed. Cir. 1985). Factual determinations made by the USPTO must be based on a preponderance of the evidence, and legal conclusions must be correct. *In re Caveny*, 226 USPQ 1, 3 (Fed. Cir. 1985).

Pursuant to established legal authority, patentability under 35 U.S.C. § 103 requires a four-step analysis, which involves determining (1) the scope and content of the prior art, (2) the differences between the prior art and the claimed inventions, (3) the level of skill in the art, and (4) the objective evidence of nonobviousness that may have been presented. *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966). After all of these factors have been considered, the ultimate legal conclusion on the issue of nonobviousness must be reached. With the above background in mind the rejections under 35 U.S.C. § 103 will be discussed.

## 2. Arguments For Nonobviousness

### a. The USPTO Failed to Prove Obviousness of Claims 1-6, 13-16, 22-26, 56-61, 68-71, 77-82, and 109-113 over Feldbrugge by a Preponderance of the Evidence

Claims 1-6, 13-16, 22-26, 56-61, 68-71, 77-82, and 109-113 were rejected under 35 U.S.C. § 103(a) as allegedly being obvious over U.S. Patent No. 3,886,299 ("Feldbrugge").

Feldbrugge discloses dense, substantially unpuffed, fibrous products that simulate the muscle of animals or the flesh of fish. (Abstr.) These fibrous products are made by "feeding a proteinaceous dough through a heated channel of decreasing volume to simultaneously elongate and thermally coagulate the dough and then releasing the compression without forcing the dough through a die while maintaining a pressure drop below 100 psi." (Abstr.) More particularly, Feldbrugge used a Sigma mixer to mix ingredients prior to extrusion in a single screw extruder. (Col. 7, lines 30-31; col. 7, line 67, through col. 8, line 2; col. 8, lines 14-17; col. 8, lines 55-56; col. 9, lines 2-4.) This process involved putting the dough in a heated chamber of decreasing volume. This extrusion process required compression and stretching for fiber formation. It also required the dough to show visible fibers during the mixing stage prior to extrusion. (Col. 5, lines 8-10 and 22-27.) Moreover, no exit die was used. (Abstr.; col. 2, lines 17-19; col. 3, lines 27-32; col. 7, lines 20-23.)

1. Feldbrugge Failed to Disclose  
Thermoplastic Extrusion

Appellants respectfully traverse the characterization of Feldbrugge's method as involving "thermoplastic extrusion." Appellants respectfully submit that the process described by Feldbrugge involved simple extrusion. The differences between thermoplastic extrusion and simple extrusion are widely recognized, as described in the following quotations:

(1) "Extrusion is simply the operation of shaping a plastic or dough-like material by forcing it through a restriction or die." M.N. Riaz, Introduction to extruders and their principles, in Extruders in Food Applications 1 (M.N. Riaz, ed., Technomic Publishing Co., Lancaster, PA, 2000).

(2) "Food extrusion has been practiced for over 50 years. Initially its role was limited to mixing and forming . . . . Now, the food extruder is considered a high-temperature, short-time bioreactor that transforms a variety of raw ingredients into modified intermediate and finished products." J.M. Harper, Food extruders and their application, in Extrusion Cooking 1 (Mercier, Linko & Harper, eds., American Assoc. Cereal Chemists, St. Paul, MN 1998).

(3) "Extrusion may be defined as forcing a pumpable product through a small opening to shape materials in a designated fashion. . . . A home cookie maker is a simple example of an extruder. . . . In many food extrusion processes, heating and cooking of raw

materials occur as they are mixed and formed to produce essentially a finished product in a single operation." D.R. Heldman & R.W. Hartel, Food Extrusion, in Principles of Food Processing 253 (Chapman and Hall, New York 1997).

(4) "Thermoplastic extrusion is the process in which a low-water, powder-like raw material is pressed and heated simultaneously in a shear field, forced through a shaping die, and rapidly hardened by cooling. . . . Three main steps of many food technologies, i.e., mixing of food system components, shaping of a food system and fixing the form and structure of a given food product, can be successively and continuously accomplished within the extruder barrel and at the exit." V.B. Tolstoguzov, Thermoplastic extrusion-the mechanism of the formation of extrudate structure and properties, 70 J. Assoc. Official Analytical Chemists 417, 419-420 (1993).

The last of these definitions distinguishes thermoplastic extrusion from simple extrusion. Feldbrugge describes simple extrusion, because (1) mixing was carried out in a mixer, not in the extruder; and (2) the mixture was not forced through an extrusion die.

Even though U.S. Patent No. 4,338,340 ("Morimoto") referred in 1982 to Feldbrugge as describing thermoplastic extrusion, Feldbrugge did not refer to its own process as thermoplastic extrusion, and the Feldbrugge process would not have been

considered to be thermoplastic extrusion at the time the present application was filed.

2. Feldbrugge Failed To Disclose Each and Every Limitation of the Claimed Invention

Further, Feldbrugge did not disclose or suggest each and every limitation of the presently claimed invention. With respect to claims 1 and 56, Feldbrugge did not disclose (1) a thermoplastic extrusion product (2) containing about 1-80% of food grade protein (or mixture of food grade proteins) and (3) about 20-99% edible polysaccharide, (4) where the food grade protein (or mixture of food grade proteins) comprises at least about 25% by weight of whey protein.

With respect to claims 2 and 57, Feldbrugge did not disclose or suggest a thermoplastic extrusion product comprising about 15-65% by weight of food grade protein. Similarly, with respect to claims 3 and 58, Feldbrugge did not disclose or suggest a thermoplastic extrusion product comprising about 16-48% by weight of food grade protein.

With respect to claims 4 and 59, Feldbrugge did not disclose or suggest a thermoplastic extrusion product further comprising up to about 75% by weight of plant proteins, animal proteins, microbial proteins, or mixtures thereof.

With respect to claims 5-6 and 60-61, Feldbrugge did not disclose or suggest the thermoplastic extrusion products of the

underlying base claims and intervening claims and further comprising wheat proteins.

With respect to claims 13 and 68, Feldbrugge did not disclose or suggest a thermoplastic extrusion product comprising at least about 50% by weight of whey protein.

With respect to claims 23-26 and 78-81, Feldbrugge did not disclose or suggest thermoplastic extrusion products wherein the whey protein comprised sweet whey solids, whey protein concentrate, whey protein isolate, or mixtures thereof.

With respect to claim 82, Feldbrugge did not disclose or suggest a thermoplastic extrusion product wherein the whey protein is undenatured.

With respect to claims 109-113 and 119, Feldbrugge did not disclose or suggest a thermoplastic extrusion product containing about 40-100% by weight of a whey protein concentrate and about 0-60% by weight of an edible polysaccharide, where the whey protein concentrate comprises at least about 80% by weight of protein. Still further, with respect to claim 110, Feldbrugge did not disclose or suggest a thermoplastic extrusion product comprising about 40-99% by weight of whey protein concentrate and about 1-60% by weight of edible polysaccharide.

For these reasons, Feldbrugge failed to disclose each and every limitation of the presently claimed invention.

3. Feldbrugge Failed To Enable Making or Using of the Claimed Invention

In the after-final amendment filed May 25, 2007, Appellants argued that the disclosure of the Feldbrugge patent was not sufficient to enable a person of ordinary skill in the relevant art to make and use the presently claimed invention. Appellant further argued that, due to the insufficiency of the disclosure in the Feldbrugge patent, it would not have been obvious to a person of ordinary skill in the art to bridge the gap between what is disclosed in Feldbrugge and what is claimed in the present application.

4. Feldbrugge Teaches Away from Making the Presently Claimed Invention

Feldbrugge discloses a dense, fibrous product that simulates meat. Feldbrugge teaches mixing the ingredients in a mixer and then feeding the resulting dough through a simple heated extruder without the use of an exit die. Therefore, when considered as a whole, Feldbrugge teaches away from (1) mixing in the extruder, and (2) using an exit die. Thus, Feldbrugge teaches away from the presently claimed invention by teaching away from using thermoplastic extrusion according to the presently claimed invention.

5. Improper Hindsight Reconstruction of the Claimed Invention Was Used to Reject the Claimed Invention

The C.C.P.A. stated in In re Carroll, 202 U.S.P.Q. 571, 572 (C.C.P.A. 1979):

One of the more difficult aspects of resolving questions of non-obviousness is the necessity "to guard against slipping into use of hindsight." *Graham v. John Deere Co.*, 383 U.S. 1, 36, 148 USPQ 459, 474 (1965). Many inventions may seem obvious to everyone after they have been made. However, 35 USC 103 instructs us to inquire into whether the claimed invention "would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains." Thus, in deciding the issue of obviousness, we must look at the prior art presented from a vantage point in time prior to when the invention was made, and through the eyes of a hypothetical person of ordinary skill in the art.

Moreover, it has been widely recognized that virtually every invention is a combination of elements and that most, if not all, of these will be found somewhere in an examination of the prior art. This reasoning led the Federal Circuit, in *Connell v. Sears, Roebuck & Co.*, 220 U.S.P.Q. 193, 199 (Fed. Cir. 1983) to state:

The test is whether the claimed invention as a whole, in light of all the teachings of the references in their entireties, would have been obvious to one of ordinary skill in the art at the time the invention was made.

These cases make it clear that if the USPTO is to establish a *prima facie* case of obviousness, it is not sufficient to merely assert that "it would be obvious."

Appellants respectfully submits that if one follows the above guidelines and analyzes the art properly, then there is no



suggestion of the invention as claimed. The Office Action has picked certain disclosures of the cited references, ignoring others, without explanation. This is exactly the type of hindsight reasoning that is forbidden by the law. For this reason, Appellants respectfully submit that a case of obviousness has not been established by a preponderance of the evidence.

6. The Mandates of *Graham v. John Deere* Were Not Followed

*Graham v. John Deere* requires that the scope and content of the prior art be determined, the differences between the prior art the claimed invention be set out, and the level of ordinary skill in the art be determined.

In the present instance, the scope and content of the prior art has been given short shrift, because the references were not considered in their entirety. The inconsistencies and contradictory teachings of the references were ignored. Isolated teachings were selected, while other teachings were likewise ignored. Similarly, the differences between the cited references and the claimed invention have been largely ignored or glossed over. Further, the level of skill in the art has not been established.

Therefore, it is respectfully submitted that proper procedure has not been followed. For this reason, a case of obviousness has not been established by a preponderance of the evidence.

b. The USPTO Failed to Prove Obviousness of Claims 17, 18, 72, 73, 114, and 115 over Feldbrugge and Villagran by a Preponderance of the Evidence

Claims 17, 18, 72, 73, 114, and 115 were rejected under 35 U.S.C. § 103(a) as allegedly being obvious over Feldbrugge taken together with U.S. Patent No. 5,366,748 ("Villagran").

The Feldbrugge patent was summarized above, which summary is incorporated herein by reference. Villagran discloses a method of producing an extruded cereal-grain-based food product. In this process, the extruder is simply a mixer for forming a dough. There is no heating, and there is minimal shear in the extruder. The resulting sheet of dough is then cut into segments and fried (col. 1, lines 65-68). A gum may be added to the dough to prevent toothpacking.

1. Feldbrugge and Villagran Fail To Disclose Each and Every Limitation of the Claimed Invention

The combination of Feldbrugge and Villagran fails to make up for the deficiencies of the Feldbrugge reference alone. That is, claims 17-18, 72-73, and 114-115 are dependent claims. As such, they incorporate by reference all of the limitations of their underlying base claims and intervening claims, which were discussed above. The combination of Feldbrugge and Villagran fails to disclose each and every limitation incorporated by reference, as set out above in the discussion of the claims rejected over

Feldbrugge. Therefore, a *prima facie* case of obviousness was not established with respect to these claims, and the USPTO has also failed to demonstrate obviousness of the presently claimed invention by a preponderance of the evidence.

2. Feldbrugge and Villagran Teach Way from Making the Presently Claimed Invention

As recited above, when considered as a whole Feldbrugge teaches away from mixing in the extruder and teaches away from using an exit die, both of which teach away from the presently claimed invention.

Villagran discloses a method of producing an extruded cereal-grain-based food product. In this process, the extruder is simply a mixer for forming a dough. There is no heating, and there is minimal shear in the extruder. The resulting sheet of dough is then cut into segments and fried. Therefore, when considered as a whole, Villagran teaches that the extruder is simply a mixer, that no heating is to take place in the extruder, and that the extruded product is to be fried.

When considered in their entirety, Feldbrugge and Villagran contradict each other. One reference teaches to mix the ingredients before placing them in the extruder, while the other reference teaches to mix the ingredients in the extruder. One reference teaches to heat the ingredients in the extruder, and the other references teaches not to heat in the extruder. One

references teaches to exert substantial shear forces on the ingredients in the extruder, and the other reference teaches away from exerting substantial shear forces. Therefore, it is respectfully submitted that these two references, when considered in their entireties, teach away from each other. Hence, their combination is illegitimate for use as a basis for rejecting the instantly claimed invention.

3. Improper Hindsight Reconstruction of the Claimed Invention Was Used to Reject the Claimed Invention

Appellants respectfully submits that if one follows proper legal guidelines and analyzes the art properly, the invention as claimed would not be obvious to a person of ordinary skill in the art. The Office Action has picked certain disclosures of the cited references, ignoring others, without explanation. This is exactly the type of hindsight reasoning that is forbidden by nonobviousness jurisprudence.

4. The Office Action Failed to Follow All the Steps of Proper *Graham* Analysis

The rejection of the presently claimed invention was fatally flawed by the failure to follow the steps required in a proper nonobviousness analysis under *Graham*. At a minimum, the rejection failed to correctly set out the differences between the prior art and the claimed invention and failed to establish the level of

skill of a person of ordinary skill in the art. For this reason, the rejection cannot stand.

c. The USPTO Failed to Prove Obviousness of Claims 19-21, 74-76, and 116-118 over Feldbrugge and JP 58-28235 by a Preponderance of the Evidence

Claims 19-21, 74-76, and 116-118 were rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Feldbrugge taken together with JP 58-28235.

Feldbrugge has been described above, which description is incorporated herein by reference. JP 58-282325 disclosed preparation of a food product by blending a milk-protein-containing hydrous gel with a dehydrating agent (such as sodium chloride, calcium chloride, calcium lactate, a monosaccharide, an oligosaccharide, a sugar alcohol, an amino acid or salt thereof, or lecithin) and a powdery dispersant (such as dextrin, cellulose powder, gum, white powder) under heating, followed by extruding and molding. The milk protein is from milk or defatted milk, or is casein. This is not the same as whey protein.

1. Feldbrugge and JP 58-28235 Fail To Disclose Each and Every Limitation of the Claimed Invention

The combination of Feldbrugge and JP 58-28235 failed to make up for the deficiencies of the Feldbrugge reference alone. That is, claims 19-21, 74-76, and 116-118 are dependent claims. As

such, they incorporate by reference all of the limitations of their underlying base claims and intervening claims, which were described above. The combination of Feldbrugge and JP 58-28235 fails to disclose each and every limitation that was incorporated by reference. Therefore, a *prima facie* case of obviousness was not been established with respect to these claims, and the USPTO has not met its ultimate burden by failing to show by a preponderance of the evidence that the claimed invention would have been obvious to a person of ordinary skill in the art.

2. Cited References Were Not Considered in Their Entireties

As recited above, when considered as a whole Feldbrugge teaches away from mixing in the extruder and away from using an exit die, thus teaching away from thermoplastic extrusion.

JP 58-282325 discloses preparation of a food product by blending a protein-containing hydrous gel with a dehydrating agent and a powdery dispersant under heating, followed by extruding and molding.

Feldbrugge and JP 58-282325 both teach making meat-like products. The disclosure of JP 58-282325 is so brief and ambiguous that it is uncertain as to what it actually teaches. The ingredients are blended while being heated, then they are extruded and molded. However, it is not certain as to whether the blending takes place in the extruder or in a mixer, whether the heating

takes place in the extruder or elsewhere, whether or not substantial shear forces are exerted on the blend, whether or not an exit die is used on the extruder, and so forth. JP 58-282325 teaches using casein or proteins from milk, not whey proteins.

3. Improper Hindsight Reconstruction of the Claimed Invention Was Used to Rejection the Claimed Invention

The USPTO picked certain disclosures of the cited references, ignoring others, without showing that it would have been obvious to do so. This is the inappropriate application of hindsight reasoning that is forbidden by the law. For this reason, Applicants respectfully submit that a *prima facie* case of obviousness was not been established.

4. The Mandates of *Graham v. John Deere* Were Not Followed

In the present instance, the scope and content of the prior art has been given short shrift, because the references were not considered in their entireties. The inconsistencies and contradictory teachings of the references were ignored. Isolated teachings were selected, while other teachings were likewise ignored. Similarly, the differences between the cited references and the claimed invention have been largely ignored or glossed over. Further, the level of skill in the art has not been established.

Therefore, it is respectfully submitted that proper procedure has not been followed. For this reason, a case of obviousness has not been established.

VIII. CONCLUSION

Appellants have presented the foundation and background of what is required to establish a case of obviousness and have shown that the rejections made by the USPTO do not meet these criteria. Appellants reviewed all of the evidence of record and showed that the great preponderance of the evidence favors a holding that the claims are nonobvious. The USPTO (1) failed to show all the limitations of the claimed invention in the prior art, (2) failed to consider the cited references in their entireties as evidenced by picking some teachings to emphasize while ignoring others, (3) failed to consider and give appropriate weight to the disclosures that teach away from the presently claimed invention, (4) inappropriately relied on hindsight reconstruction of the invention, using the Appellants' disclosure as a blueprint, and (5) ignored steps of nonobviousness analysis mandated by *Graham v. John Deere*. In view of this, the USPTO has not met its burden of establishing either a *prima facie* case of obviousness or showing by a preponderance of the evidence that the claimed invention lacks nonobviousness under § 103(a). Therefore, the rejection of the claims is incorrect and should be reversed.



Appellants respectfully request that the Board reverse the rejection of claims 1-6, 13-26, 56-61, 68-82, and 109-119 under 35 U.S.C. § 103(a).

DATED this 14<sup>th</sup> day of March, 2008.

Respectfully submitted,



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Enclosure:      Claims Appendix  
                 Evidence Appendix  
                 Related Proceedings Appendix

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## CLAIMS APPENDIX

The claims involved in the appeal are as follows:

Claim 1 (original): A textured whey protein product comprising a thermoplastic extrusion product of a composition comprising about 1-80% by weight of a food grade protein and about 20-99% by weight of an edible polysaccharide, wherein the food grade protein comprises at least about 25% by weight of whey protein.

Claim 2 (original): The textured whey protein product of claim 1 wherein the composition comprises about 15-65% by weight of the food grade protein.

Claim 3 (original): The textured whey protein product of claim 1 wherein the composition comprises about 16-48% by weight of the food grade protein.

Claim 4 (original): The textured whey protein product of claim 1 wherein the food grade protein further comprises up to about 75% by weight of plant proteins, animal proteins, microbial proteins, or mixtures thereof.

Claim 5 (original): The textured whey protein product of claim 4 wherein the food grade protein comprises plant proteins selected from the group consisting of wheat proteins, rice proteins, soy proteins, corn proteins, legume proteins, and mixtures thereof.

Claim 6 (original): The textured whey protein product of claim 4 wherein the food grade protein comprises wheat protein.

Claim 13 (original): The textured whey protein product of claim 1 wherein the food grade protein comprises at least about 50% by weight of whey protein.

Claim 14 (original): The textured whey protein product of claim 1 wherein the edible polysaccharide is a member selected from the group consisting of starches, cellulosics, dietary fibers, and mixtures thereof.

Claim 15 (original): The textured whey protein product of claim 14 wherein the edible polysaccharide is a starch selected from the group consisting of cornstarch, potato starch, rice starch, tapioca starch, bran starch, soy starch, modified variants thereof, and mixtures thereof.

Claim 16 (original): The textured whey protein product of claim 15 wherein the edible polysaccharide is cornstarch.

Claim 17 (original): The textured whey protein product of claim 14 wherein the edible polysaccharide is a cellulosic selected from the group consisting of celluloses, modified celluloses, and mixtures thereof.

Claim 18 (original): The textured whey protein product of claim 14 wherein the edible polysaccharide is a dietary fiber selected from the group consisting of maltodextrin, inulin, fructo-oligosaccharides, pectin, guar gum, and mixtures thereof.

Claim 19 (original): The textured whey protein product of claim 1 wherein the composition further comprises a calcium salt.

Claim 20 (original): The textured whey protein product of claim 19 wherein the calcium salt is a member selected from the group consisting of calcium carbonate, calcium chloride, calcium gluconate, calcium lactate, and mixtures thereof.

Claim 21 (original): The textured whey protein product of claim 20 wherein the calcium salt is calcium chloride.

Claim 22 (original): The textured whey protein product of claim 1 wherein the composition further comprises a pH-adjusting agent.

Claim 23 (original): The textured whey protein product of claim 1 wherein the whey protein comprises sweet whey solids.

Claim 24 (original): The textured whey protein product of claim 1 wherein the whey protein comprises a whey protein concentrate.

Claim 25 (original): The textured whey protein product of claim 1 wherein the whey protein comprises a whey protein isolate.

Claim 26 (original): The textured whey protein product of claim 1 wherein the whey protein is a member selected from the group consisting of sweet whey solids, whey protein concentrate, whey protein isolate, and mixtures thereof.

Claim 56 (original): A textured whey protein product comprising a thermoplastic extrusion product of a composition comprising about 1-80% by weight of a mixture of food grade proteins and about 20-99% by weight of an edible polysaccharide,

wherein the mixture of food grade proteins comprises at least about 25% by weight of whey protein.

Claim 57 (original):        The textured whey protein product of claim 56 wherein the composition comprises about 15-65% by weight of the mixture of food grade proteins.

Claim 58 (original):        The textured whey protein product of claim 56 wherein the composition comprises about 16-48% by weight of the mixture of food grade proteins.

Claim 59 (original):        The textured whey protein product of claim 56 wherein the mixture of food grade proteins further comprises up to about 75% by weight of plant proteins, animal proteins, microbial proteins, or mixtures thereof.

Claim 60 (original):        The textured whey protein product of claim 59 wherein the mixture of food grade proteins comprises plant proteins selected from the group consisting of wheat proteins, rice proteins, soy proteins, corn proteins, legume proteins, and mixtures thereof.

Claim 61 (original): The textured whey protein product of claim 59 wherein the mixture of food grade proteins comprises wheat protein.

Claim 68 (original): The textured whey protein product of claim 56 wherein the mixture of food grade proteins comprises at least about 50% by weight of whey protein.

Claim 69 (original): The textured whey protein product of claim 56 wherein the edible polysaccharide is a member selected from the group consisting of starches, cellulose, dietary fibers, and mixtures thereof.

Claim 70 (original): The textured whey protein product of claim 69 wherein the edible polysaccharide is a starch selected from the group consisting of cornstarch, potato starch, rice starch, tapioca starch, bran starch, soy starch, modified variants thereof, and mixtures thereof.

Claim 71 (original): The textured whey protein product of claim 70 wherein the edible polysaccharide is cornstarch.

Claim 72 (original): The textured whey protein product of claim 69 wherein the edible polysaccharide is a cellulosic selected

from the group consisting of celluloses, modified celluloses, and mixtures thereof.

Claim 73 (original):        The textured whey protein product of claim 69 wherein the edible polysaccharide is a dietary fiber selected from the group consisting of maltodextrin, inulin, fructo-oligosaccharides, pectin, guar gum, and mixtures thereof.

Claim 74 (original):        The textured whey protein product of claim 56 wherein the composition further comprises a calcium salt.

Claim 75 (original):        The textured whey protein product of claim 74 wherein the calcium salt is a member selected from the group consisting of calcium carbonate, calcium chloride, calcium gluconate, calcium lactate, and mixtures thereof.

Claim 76 (original):        The textured whey protein product of claim 75 wherein the calcium salt is calcium chloride.

Claim 77 (original):        The textured whey protein product of claim 56 wherein the composition further comprises a pH-adjusting agent.



Claim 78 (original): The textured whey protein product of claim 56 wherein the whey protein comprises sweet whey solids.

Claim 79 (original): The textured whey protein product of claim 56 wherein the whey protein comprises a whey protein concentrate.

Claim 80 (original): The textured whey protein product of claim 56 wherein the whey protein comprises a whey protein isolate.

Claim 81 (original): The textured whey protein product of claim 56 wherein the whey protein is a member selected from the group consisting of sweet whey solids, whey protein concentrate, whey protein isolate, and mixtures thereof.

Claim 82 (original): The textured whey protein product of claim 56 wherein the whey protein is undenatured.

Claim 109 (original): A textured whey protein product comprising a thermoplastic extrusion product of a composition comprising about 40-100% by weight of a whey protein concentrate and about 0-60% by weight of an edible polysaccharide, wherein the whey protein concentrate comprises at least about 80% by weight of protein.

Claim 110 (original): The textured whey protein product of claim 109 wherein the composition comprises about 40-99% by weight of the whey protein concentrate and about 1-60% by weight of the edible polysaccharide.

Claim 111 (original): The textured whey protein product of claim 110 wherein the edible polysaccharide is a member selected from the group consisting of starches, cellulosics, dietary fibers, and mixtures thereof.

Claim 112 (original): The textured whey protein product of claim 111 wherein the edible polysaccharide is a starch selected from the group consisting of corn, potato, rice, tapioca, bran, and soy starches, modified variants thereof, and mixtures thereof.

Claim 113 (original): The textured whey protein product of claim 112 wherein the edible polysaccharide is cornstarch.

Claim 114 (original): The textured whey protein product of claim 111 wherein the edible polysaccharide is a cellulosic selected from the group consisting of celluloses, modified celluloses, and mixtures thereof.

Claim 115 (original): The textured whey protein product of claim 109 wherein the edible polysaccharide is a dietary fiber selected from the group consisting of maltodextrin, inulin, fructo-oligosaccharides, pectin, guar gum, and mixtures thereof.

Claim 116 (original): The textured whey protein product of claim 109 wherein the composition further comprises a calcium salt.

Claim 117 (original): The textured whey protein product of claim 116 wherein the calcium salt is a member selected from the group consisting of calcium carbonate, calcium chloride, calcium gluconate, calcium lactate, and mixtures thereof.

Claim 118 (original): The textured whey protein product of claim 117 wherein the calcium salt is calcium chloride.

Claim 119 (original): The textured whey protein product of claim 109 wherein the composition further comprises a pH-adjusting agent.

EVIDENCE APPENDIX

None.

RELATED PROCEEDINGS APPENDIX

None.